Cisco Unified Communications 500 Series Model 560 for Small Business

Platform Reference Guide

Product Overview

The Cisco® Unified Communications 560 (Figure 1), a central part of the Cisco Smart Business Communications System, is an affordable unified communications appliance that provides voice and data communications, voicemail, automated attendant, video, security, and wireless capabilities while integrating with existing desktop applications such as calendar, email, and customer relationship management (CRM) programs. This easy-to-manage platform supports up to 138 phones and 125 voice mailboxes and provides flexible deployment options based on your needs, including support for a wide array of IP phones, public switched telephone network (PSTN) interfaces, and Internet connectivity. This reference guide describes the specifications and capabilities of the Cisco Unified Communications 560 (UC 560).

Figure 1. Cisco UC 560: FXO Model

Product Part Numbers

The Cisco UC 560 is available in two base versions: an FXO (analog) model and a Basic Rate Interface (BRI) base model. The FXO model is also available with a built-in T1/E1 interface. With ease of ordering as a focus area, each has its own product ID. In addition, there is one software licensing product, multiples of which can be installed to achieve the desired user count. Table 1 lists the part numbers for the Cisco UC 560.

Table 1. Product Part Numbers for the Cisco UC 560

Part Number	Description
UC560-FXO-K9	UC 560 system with 4 FXO, 4 FXS, and 2 voice interface card (VIC) expansion slots
UC560-BRI-K9	UC 560 system with 2 BRI, 4 FXS, and 2 VIC expansion slots
UC560-T1E1-K9	UC 560 system with 4 FXO, 4 FXS, 1 T1/E1, and 1 VIC expansion slot
L-UC-PRO-8U=	Software license upgrade, authorizing an additional 8 users (e-delivery)

Interfaces and Modules

The Cisco UC 560 has built-in interfaces that offer fixed configurations, reducing complexity. In addition, this platform offers voice interface card (VIC) slots to support additional Cisco VIC modules. Table 2 lists the built-in interfaces, and Table 3 lists the modular interfaces supported on the UC 560.

Table 2. Built-In Interfaces Supported on the Cisco UC 560

Interface	Description
Music on hold (MoH) port	Single 3.5-mm audio port
Onboard Ethernet ports	• Three 10/100/1000 Ethernet expansion ports[1] • One 10/100/1000 WAN uplink

[1] One of the three expansion ports defaults to a PC/LAN port to enable configuration of the box and/or to connect to a server. The port can be changed to function as an expansion port.

Interface	Description
FXS and direct inward dialing (DID) ports	4 built-in FXS ports (DID is available via the additional module listed in Table 3)
PSTN interfaces (FXO, BRI, or T1/E1)	4 FXO, 2 BRI, or 4 FXO with built-in T1/E1

Table 3. Modular VIC Cards for the Cisco UC 560

Part Number	Description
VIC-4FXS/DID, VIC3-4FXS/DID	4-port FXS/DID module
VIC2-2FXS	2-port FXS module
VIC2-2FXO	2-port FXO module
VIC3-2FXS/DID	2-port FXS/DID module
VIC2-4FXO	4-port FXO module
VIC2-2BRI-NT/TE	2-port BRI NT/TE module
VWIC2-1MFT-T1/E1	1-port T1/E1 for voice (ISDN Primary Rate Interface [PRI] and channel associated signaling [CAS]); data is not supported
VWIC2-2MFT-T1/E1[2]	2-port T1/E1 for voice (ISDN PRI and CAS); data is not supported

Licensing

The Cisco UC 560 includes 24 user licenses. These licenses enable the use of Cisco IP phones and allow users to access the IP PBX features, including voicemail. In addition, supplementary user licenses are bundled to help with deployments that need a few extra licenses. For additional licensing needs, the L-UC-PRO-8U= may be ordered. This increases the existing license count by eight. Table 5 lists the number of users supported based on the hardware/license configurations. The UC 560 also has built-in licenses for unified communications features. Table 4 lists the license count bundled with the system for each feature. Guidance for licenses associated with unified messaging on the UC 560 is included in Table 6.

Note: Out of the 24 base licenses provided with the UC560 8 are supplemental licenses.

Table 4. Licensing and User Capacity for the Cisco UC 560

License Configuration	Description
UC560 (FXO, BRI, or T1E1 model)	24 user licenses, 6 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 1 x L-UC-PRO-8U=	32 user licenses, 8 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 2 x L-UC-PRO-8U=	40 user licenses, 8 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 3 x L-UC-PRO-8U=	48 user licenses, 8 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 4 x L-UC-PRO-8U=	56 user licenses, 8 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 5 x L-UC-PRO-8U=	64 user licenses, 8 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 6 x L-UC-PRO-8U=	72 user licenses, 8 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 7 x L-UC-PRO-8U=	80 user licenses, 10 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 8 x L-UC-PRO-8U=	88 user licenses, 10 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 9 x L-UC-PRO-8U=	96 user licenses, 10 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 10 x L-UC-PRO-8U=	104 user licenses, 10 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 11 x L-UC-PRO-8U=	112 user licenses, 10 supplemental user licenses

[2] A maximum of two T1/E1 cards are supported on a UC 560. VWIC2-2MFT-T1/E1 will not work on a UC560-T1E1-K9 model.

License Configuration	Description
UC560 (FXO, BRI, or T1E1 model) and 12 x L-UC-PRO-8U=	120 user licenses, 10 supplemental user licenses
UC560 (FXO, BRI, or T1E1 model) and 13 x L-UC-PRO-8U=	128 user licenses, 10 supplemental user licenses

Table 5. Feature Licensing for the Cisco UC 560

Feature	Number of Licenses Included
Virtual LANs (VLANs)	15
VPN tunnels[3]	20
Remote teleworker sites	20
Users per teleworker site	5
Multisite deployments	5

Table 6. Unified Messaging Licensing for the Cisco UC 560

Configuration	Unified Messaging Licenses
Base Voicemail license	125 mailboxes[4]
Default voicemail storage per mailbox	12 minutes
Sessions to voicemail and automated attendant	12
Internet Message Access Protocol (IMAP) sessions	20[4]

Note: In large deployments, It is very typical to have faxes and common area phones which do not require voicemail or voicemail boxes hence the number of voicemail boxes do not match the exact phone count.

Basic Call Center Capabilities

The Cisco UC 560 supports basic automatic call distribution (B-ACD) that can help answer outside calls with greetings and menus and allow callers to select the appropriate departments. B-ACD also provides managed call queues for calls that are waiting to be answered. Table 7 lists the B-ACD capabilities of the UC 560.

Table 7. Cisco UC 560 B-ACD Capabilities

Feature	Number
Hunt groups associated with B-ACD	10
Calls allowed in each call queue	30
Agents (members) for each hunt group	20
Statistics accumulated for all B-ACD groups	168 hours
Hunt groups used with automated attendant	3

[3] Includes IP Security (IPsec), Secure Sockets Layer (SSL), or generic routing encapsulation (GRE) tunnels.
[4] There are 20 simultaneous sessions available between IMAP Client and IMAP server. If all 20 sessions are used up, the remaining session requests will be rejected by the IMAP server. IMAP clients will automatically attempt to establish session with the server once some of the server ports are freed up. This does not limit the number of IMAP clients to 20.

Voice Resource Utilization

The Cisco UC 560 includes eight digital signal processors (DSPs) that enable digitized voice processing on the platform. The DSP resources available on the platform are used for various unified communications features, namely support of analog and digital VICs, prescheduled or ad hoc voice conference calls, and translation of digitized voice from a less complex codec (such as g711) to a more complex codec (such as g729) - typically used for deployments that use IP trunking (SIP or H.323) for PSTN access or multisite interconnection.

Each DSP can support 16 g711 channels or 8 g729 channels. This enables a total of 128 g711 channels on the Cisco UC 560. Table 8 indicates the DSP resource utilization for each feature. Tables 9 and 10 show a few deployment scenarios based on combinations of these features.

Table 8. DSP Resource Utilization on the Cisco UC 560

Feature	DSP Resource Utilization
Support for built-in FXS ports	4 channels
Support for built-in FXO ports	4 channels
Support for built-in music on hold (MoH) port	2 channels
Support for T1/E1 voice/WAN interface card (VWIC)	24 channels[5]
Transcoding (g711 to g729)	2 channels
Conferencing[6]	16 channels

Tables 9 and 10 list the maximum sessions for either ad hoc conferencing or meet-me conferencing. DSP resources allocated for conferencing can be shared by both features, and a mix of these can be configured. Below are a few examples based on Table 9. The concept of sharing conferencing resources applies to Table 10 as well.

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Ad hoc 56x8      Meet-me 0x0
Ad hoc 28x8      Meet-me 28x8
Ad hoc 56x4      Meet-me 7x32
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The above examples indicate Sessions x Participant.

The Transcoding column lists the maximum number of transcoding sessions that the system can be configured for, for a given configuration of DSPs. For example, the first row in Table 9 indicates that a maximum of three transcoding sessions are available if seven DSPs are allocated for conferencing. If more transcoding sessions are required, DSP resources will need to be diverted from conferencing to transcoding. For example, in the second row of Table 9, one of the DSPs is dedicated to transcoding, leaving six DSPs for conferencing. Notice the increase in the number of transcoding sessions and the drop in the number of conferencing sessions.

[5] Total DSP resources will depend upon the number of channels provisioned in the T1.
[6] Conferencing always uses up an entire DSP. The rest of the features can share a DSP. The number of sessions available will vary depending upon the codec used in a conference call.

Table 9. DSP Resources: Scenario 1

UC500 Model	Additional Voice Card (VIC)	SIP Trunk Preferred Codec	Ad-hoc Conference (Sessions x Participants)	Meet-me Conference (Sessions x Participants)	Comments	Transcoding
UC 560	None	No SIP Trunk or G.711	Up to a maximum of 56x8 or 104x4	Up to a maximum of 48x8 or 24x16 or 12x32	• 1 DSP for supporting voice ports and transcoding sessions • Remaining 7 DSPs used for conferencing	A maximum of 3 transcoding sessions for this configuration
		G.729 Transcoding sessions recommended	Up to a maximum of 12x8 or 24x4	Up to a maximum of 12x8 or 6x16 or 3x32	• 1 DSP for supporting voice ports and transcoding sessions • 1 DSP reserved for transcoding • Remaining 6 DSPs used for conferencing	A maximum of 11 transcoding sessions for this configuration
	2FXS 2FXS/DID 2FXO	No SIP Trunk or G.711	Up to a maximum of 56x8 or 104x4	Up to a maximum of 56x8 or 28x16 or 14x32	• 1 DSP for supporting voice ports and transcoding sessions • Remaining 7 DSPs used for conferencing	A maximum of 2 transcoding sessions for this configuration
		G.729 Transcoding sessions recommended	Up to a maximum of 12x8 or 24x4	Up to a maximum of 12x8 or 6x16 or 3x32	• 1 DSP for supporting voice ports and transcoding sessions • 1 DSP reserved for transcoding • Remaining 6 DSPs used for conferencing	A maximum of 10 transcoding sessions for this configuration
	4FXS 4FXS/DID 4FXO 2BRI NT/TE	No SIP Trunk or G.711	Up to a maximum of 56x8 or 104x4	Up to a maximum of 56x8 or 28x16 or 14x32	• 1 DSP for supporting voice ports and transcoding sessions • Remaining 7 DSPs used for conferencing	A maximum of 1 transcoding sessions for this configuration
		G.729 Transcoding sessions recommended	Up to a maximum of 12x8 or 24x4	Up to a maximum of 12x8 or 6x16 or 3x32	• 1 DSP for supporting voice ports and transcoding sessions • 1 DSP reserved for transcoding • Remaining 6 DSPs used for conferencing	A maximum of 9 transcoding sessions for this configuration

Table 10. DSP Resources: Scenario 2

UC500 Model	Additional Voice Card (VIC)	SIP Trunk Preferred Codec	Ad-hoc Conference (Sessions x Participants)	Meet-me Conference (Sessions x Participants)	Comments	Transcoding
UC 560	1MFT T1/E1 No. of Ch ≤ 6	No SIP Trunk or G.711	Up to a maximum of 56x8 or 104x4	Up to a maximum of 56x8 or 28x16 or 14x32	• 1 DSP for supporting voice ports, fractional T1/E1 and transcoding sessions • Remaining 7 DSPs used for conferencing	0 session for 6 ch 1 session for 4 ch 2 sessions for 2 ch
		G.729 Transcoding sessions recommended	Up to a maximum of 12x8 or 24x4	Up to a maximum of 12x8 or 6x16 or 3x32	• 1 DSP for supporting voice ports, fractional T1/E1 and transcoding sessions • 1 DSP reserved for transcoding • Remaining 6 DSPs used for conferencing	8 sessions for 6 ch 9 sessions for 4 ch 10 sessions for 2 ch
	1MFT T1/E1 6 ≤ No. of Ch ≤ 22	No SIP Trunk or G.711	Up to a maximum of 48x8 or 96x4	Up to a maximum of 48x8 or 24x16 or 12x32	• 2 DSPs for supporting voice ports, and transcoding sessions • 1 DSP reserved for transcoding • Remaining 5 DSPs used for conferencing	0 sessions for 22 ch 1 session for 20 ch 2 sessions for 18 ch And so on…
		G.729 Transcoding sessions recommended	Up to a maximum of 10x8 or 20x4	Up to a maximum of 10x8 or 5x16	• 3 DSPs for supporting voice ports, and transcoding sessions • 0 DSP reserved for transcoding • Remaining 5 DSPs used for conferencing	8 sessions for 22 ch 9 sessions for 20 ch 10 sessions for 18 ch And so on…
	1MFT Full T1	No SIP Trunk or G.711	Up to a maximum of 40x8 or 80x4	Up to a maximum of 40x8 or 20x16 or 10x32	• 3 DSPs for supporting voice ports, and transcoding sessions • Remaining 5 DSPs used for conferencing	A maximum of 7 transcoding sessions, disable conferencing for more transcoding
		G.729 Transcoding sessions recommended	Up to a maximum of 10x8 or 20x4	Up to a maximum of 10x8 or 5x16	• 3 DSP for supporting voice ports, and transcoding sessions • 0 DSP reserved for transcoding • Remaining 5 DSPs used for conferencing	A maximum of 7 transcoding sessions, disable conferencing for more transcoding
	1MFT Full T1	No SIP Trunk or G.711	Up to a maximum of 40x8 or 80x4	Up to a maximum of 40x8 or 20x16 or 10x32	• 3 DSPs for supporting voice ports, and transcoding sessions • Remaining 5 DSPs used for conferencing	A maximum of 4 transcoding sessions, disable conferencing for more transcoding
		G.729 Transcoding sessions recommended	Up to a maximum of 10x8 or 20x4	Up to a maximum of 10x8 or 5x16	• 3 DSP for supporting voice ports, and transcoding sessions • 0 DSP reserved for transcoding • Remaining 5 DSPs used for conferencing	A maximum of 4 transcoding sessions, disable conferencing for more transcoding

Localization

Cisco UC 500 series is enabled with localization for IP Phones, Voicemail and Dial Plan. Table 11 summarizes the localization support on the platform.

Table 11. Localization support on UC 500 Series

Language	79xx[a] Series IP Phones	SPA 5xx[b] Series IP Phones	Voicemail
Bulgarian	✓		
Chinese (China)	✓		
Chinese (Taiwan)	✓		
Danish	✓	✓	✓
Dutch	✓	✓	
English (US)	✓	✓	✓
English (UK)	✓	✓	✓
Finnish	✓	✓	
French (Canadian)	✓	✓	✓
French (European)	✓	✓	✓
German	✓	✓	✓
Hungarian	✓		
Italian	✓	✓	✓
Japanese[c]	✓	✓	
Korean	✓		
Norwegian	✓	✓	
Polish	✓		
Portuguese (Brazilian)	✓	✓	✓
Russian	✓		
Spanish (European)	✓		✓
Spanish (Latin American)	✓		✓
Spanish (Mexican)	✓		✓
Swedish	✓	✓	

a. 7920 and 7936 IP Phones do not support any localization.
b. SPA 525G IP Phone does not support any localization.
c. Katakana is supported by 7905, 7912, 7940, 7960 and SPA 5xx. Kanji is supported by 7911, 7941, 7961, 7970, and 7971.

Country	Dial Plan
Argentina	✓
Australia	✓
Austria	✓
Belgium	✓
Brazil	✓
Chile	✓
China	✓
Columbia	✓
France	✓
Germany	✓
Hong Kong	✓
Indonesia	✓
Ireland	✓
Italy	✓
Japan	✓
Malaysia	✓
Mexico	✓
Netherlands	✓
New Zealand	✓
North America	✓
Norway	✓
Philippines	✓
Singapore	✓
Slovenia	✓
Spain	✓
Sweden	✓
Switzerland	✓
Taiwan	✓
Thailand	✓
UK	✓
Venezuela	✓

Hardware Specifications

The hardware specifications for the Cisco UC 560 include physical specifications, environmental specifications, power specifications, and regulatory compliance. Table 12 lists the physical specifications. Table 13 lists the power requirements for the platform. Table 14 provides the environmental specifications, and Table 15 shows the compliance information.

Table 12. Physical Specifications for the Cisco UC 560

Feature	Description
Packaging type	Rack Mount form factor (2 rack units high)
Console port (up to 115.2 kbps)	1
Auxiliary port[7]	1

[7] The auxiliary port on the Cisco UC 560 is the same as the console port. The port has the ability to auto-detect modem tones and switch over to the auxiliary port capability.

Table 13. Power Specifications for the Cisco UC 560

Feature	Description
AC input voltage	100 to 240V AC
AC input frequency	50 to 60 Hz
AC input current	3 to 1.5A (100 to 240V)
AC input surge current	30 to 60A (100 to 240V)
Power dissipation (AC)	67W

Table 14. Environmental Specifications for the Cisco UC 560

Feature	Description
Operating temperature	32°to 104℉
Operating humidity	• 10% to 85% noncondensing, operating • 5% to 95% noncondensing, nonoperating
Nonoperating temperature	4°to 149℉ (-20°to 65℃)
Operation altitude	• 104℉ (40℃) at sea level • 87.8℉ (31℃) at 6000 ft (1800 m) • 77℉ (25℃) at 10,000 ft (3000 m) • 34.7℉ (1.5℃) per 1000 ft
Dimension (H x W x D)	3.5 x 17.25 x 13.78 in. (8.89 x 43.82 x 35.00 cm)
Power supply dimensions (H x W x D)	Internal power supply
Rack height	2 rack units (RU)
Weight (fully configured)	14.5 lb (6.58 kg)
Noise level (minimum and maximum)	Normal operating temperature: • < 81℉ (27℃): 37 dBA • < 93℉ (34℃): 44 dBA • 54 dBA (at maximum fan speed)

Table 15. Regulatory Compliance for the Cisco UC 560

Category	Compliance
Safety	• IEC 60950-1 • AS/NZS 60950.1 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • UL 60950-1
Immunity	• EN 55024 • EN 300-386 • EN 61000-6-2 • EN 50082-1 • EN 55024 (CISPR 24)

Category	Compliance
Electromagnetic compatibility (EMC)	• FCC Part 15, ICES-003 • EN55022, CISPR 22 • AS/NZS • CNS13438 • VCCI V-3 • EN 55024 • EN 300-386 • EN 61000-3-2 • EN 61000-3-3 • EN 50082-1 • EN 55024 (CISPR 24) • EN 61000-4-2 • EN 61000-4-3 • EN 61000-4-4 • EN 61000-4-5 • EN 61000-4-6 • EN 61000-4-8 • EN 61000-4-11 • EN 61000-6-2
Telecommunications	• FXS/DID • TIA-968-A3 • CS-03 Part I • ACIF S002 • ACIF S003 • ANZ PTC200 • ISDN BRI S/T (voice and data BC) • TIA-968-A3 • CS-03 Part VI • TBR3 • ACIF S031 • ANZ PTC200 • MPMHAPT Japan Digital • FXO • TIA-968-A3 • CS-03 Part I • TBR21 • MPMHAPT Japan Analog • ACIF S002 • ACIF S003 • ACIF S004 • ANZ PTC200 • MOH interface • ACIF S038 • ACIF S004 • TIA-464C

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